# 5 DEFINITIONS AND ACRONYMS

The following definitions apply to the requirements of §/JAR 25.1329 and the guidance material provided in this AC/ACJ. They should not be assumed to apply to the same or similar terms used in other regulations or AC's/ACJ's. Terms for which standard dictionary definitions apply are not defined in this AC.

## 5.1 Definitions

| | |
|---|---|
| **Abnormal Condition** | See Non-normal |
| **Advisory** | JAA: Crew awareness is required and subsequent crew action may be required. (AMJ 25.1322) |
| **Alert** | A generic term used to describe a flight deck indication meant to attract the attention of the flight crew to a non-normal operational or airplane system condition without implying the degree or level of urgency for recognition and corrective action by the crew. Warnings, Cautions and Advisories are considered to be Alerts.<br><br>JAA definition: A signal to the crew intended to draw their attention to the existence of an abnormality, system fault or aircraft condition and to identify it. (AMJ 25.1322) |
| **Analysis** | The terms "analysis" and "assessment" are used throughout. Each has a broad definition and the two terms are to some extent interchangeable. However, the term analysis generally implies a more specific, more detailed evaluation, while the term assessment may be a more general or broader evaluation but may include one or more types of analysis [AC/ACJ 25.1309]. |
| **Arm** | A condition where the intent to transition to a new mode or state has been established but the criteria necessary to make that transition has not been satisfied. |
| **Assessment** | See the definition of analysis above [AC/ACJ 25.1309]. |
| **Autopilot** | The autopilot function provides automatic control of the airplane, typically in pitch, roll, and yaw. The term includes the sensors, computers, power supplies, servo-motors/actuators and associated wiring, necessary for its function. It includes any indications and controllers necessary for the pilot to manage and supervise the system. Any part of the autopilot that remains connected to the primary flight controls when the autopilot is not in use is regarded as a part of the primary flight controls. |
| **Autothrust** | The autothrust function provides automatic control of the thrust of the airplane. The term includes the sensors, computers, power supplies, servo-motors/actuators and associated wiring, necessary for its function. It includes any indications and controllers necessary for the pilot to manage and supervise the system. Any part of the autothrust that remains connected to the engine controls when the autothrust is not in use is regarded as a part of the engine control system. |

| | |
|---|---|
| **Caution** | A flight deck indication that alerts the flight crew to a non-normal operational or airplane system condition that requires immediate crew awareness. Subsequent pilot corrective compensatory action will be required. |
| **Cognitive Task Analysis** | An analysis that focuses on the mental processes, skills, strategies, and use of information required for task performance. |
| **Complex** | A system is Complex when its operation, failure modes, or failure effects are difficult to comprehend without the aid of analytical methods [AC/ACJ 25.1309]. |
| **Conformal** | Positioned and scaled with respect to the outside view |
| **Control Wheel Steering (CWS)** | A Flight Guidance System (FGS) function which, when engaged, enables the pilot/first officer to manually fly the airplane by positioning the flight control surfaces using the autopilot servos. The positions of the flight deck controls (e.g., control column, control wheel) are determined by the FGS, which converts them into autopilot servo commands. The autopilot servos, in turn, drive the appropriate flight control surfaces. |
| **Conventional** | A system is considered to be Conventional if its functionality, the technological means used to implement its functionality, and its intended usage are all the same as, or closely similar to, that of previously approved systems that are commonly-used [AC/ACJ 25.1309]. |
| **Engage** | A steady state that exists when a flight crew request for mode or system functionality has been satisfied. |
| **Error** | An omission or incorrect action by a crew member or maintenance personnel, or a mistake in requirements, design, or implementation [AC/ACJ 25.1309]. |
| **Failure** | An occurrence which affects the operation of a component, part, or element such that it can no longer function as intended (this includes both loss of function and malfunction).<br><br>NOTE: Errors may cause failures, but are not considered to be failures [AC/ACJ 25.1309]. |
| **Failure Condition** | A condition having an effect on the airplane and/or its occupants, either direct or consequential, which is caused or contributed to by one or more failures or errors, considering flight phase and relevant adverse operational or environmental conditions, or external events [AC/ACJ 25.1309] |
| **Fail Operational System** | A system capable of completing an operation, following the failure of any single element or component of that system, without pilot action. |

| | |
|---|---|
| **Fail Passive System** | A system which, in the event of a failure, results in:<br>(a) no significant deviation in the aircraft flight path or attitude and<br>(b) no out-of-trim condition at disengagement that is not easily controlled by the pilot. |
| **Flight Director** | A visual cue or set of cues that are used during manual control of the airplane as command information to direct the pilot how to maneuver the airplane, usually in pitch, roll and/or yaw, to track a desired flight path. The flight director, displayed on the pilot's primary head down attitude indicator (ADI) or head up display (HUD), is a component of the flight guidance system and is integrated with airborne attitude, air data and navigation systems. |
| **Flight Guidance System** | A system consisting of one or more of the following elements:<br>(a) autopilot,<br>(b) flight director,<br>(c) automatic thrust control,<br>and any interactions with stability augmentation and trim systems. |
| **Flight Management System** | An aircraft area navigation system and associated displays and I/O device(s) having complex multi-waypoint lateral (LNAV) and vertical (VNAV) navigation capability (or equivalent), data entry capability, data base memory to store route and instrument flight procedure information, and display readout of navigation parameters. The Flight Management System provides guidance commands to the FGS for the purpose of automatic navigation and speed control when the FGS is engaged in an appropriate mode or modes (e.g., VNAV, LVAV, RNAV). |
| **Head-Up Display (HUD)** | A transparent optical display system located level with and between the pilot and the forward windscreen. The HUD displays a combination of control, performance, navigation, and command information superimposed on the external field of view. It includes the display element, sensors, computers and power supplies, indications and controls. It is integrated with airborne attitude, air data and navigation systems, and as a display of command information is considered a component of the light guidance system. |
| **Inadvertent** | A condition or action that was not planned or intended. |
| **Latent Failure** | A failure is latent until it is made known to the flight crew or maintenance personnel. A significant latent failure is one, which would in combination with one or more specific failures, or events result in a Hazardous or Catastrophic Failure Condition [AC/ACJ 25.1309]. |
| **Limit Flight Envelope** | This envelope is the most outside flight envelope, generally associated with airplane design limits |
| **Mode** | A mode is system configuration that corresponds to a single (or set of) FGS behavior(s). |

| | |
|---|---|
| **Non-normal Condition** | A condition or configuration of the airplane that would not normally be experienced during routine flight operations - usually due to failures. |
| **Normal Condition** | Any fault free condition typically experienced in normal flight operations. Operations typically well within the aircraft flight envelope, and with routine atmospheric and environmental conditions. |
| **Normal Flight Envelope** | The range of altitude and operating speeds that are defined by the airplane manufacturer as consistent with conducting flight operations for which the airplane is designed. This envelope is generally associated with practical, routine operation and/or prescribed conditions, whether all-engine or engine inoperative. |
| **Override** | An action taken by the flight crew intended to prevent, oppose or alter an operation being conducted by a flight guidance function, without first disengaging that function. |
| **Rare Normal Condition** | A fault-free condition that is experienced infrequently by the airplane due to significant environmental conditions (e.g., significant wind, turbulence, or icing, etc.) or non-routine operating conditions (e.g., out-of-trim due to fuel imbalance or under certain ferry configurations, or extremes of weight/c.g. combinations). |
| **Redundancy** | The presence of more than one independent means for accomplishing a given function or flight operation [AC/ACJ 25.1309]. |
| **Select** | The flight crew action of requesting functionality or an end state condition. |
| **Significant transient** | See "transient." |
| **Stability Augmentation System** | Automatic systems which provide or enhance stability for specific aerodynamic characteristics of an airplane (e.g., Yaw Damper, Longitudinal Stability Augmentation System, Mach Trim). |
| **System** | A combination of components, parts, and elements that are inter-connected to perform one or more specific functions [AC/ACJ 25.1309]. |
| **Transient** | A disturbance in the control or flight path of the airplane that is not consistent with response to flight crew inputs or environmental conditions.<br>a. Minor transient: A transient that would not significantly reduce airplane safety, and which involves flight crew actions that are well within their capabilities involving a slight increase in flight crew workload or some physical discomfort to passengers or cabin crew.<br>b. Significant transient: that would lead to a significant reduction in safety margins, an increase in flight crew workload, discomfort to the flight crew, or physical distress to passengers or cabin crew, possibly including non-fatal injuries.<br>**NOTE**: The flight crew should be able to respond to any |

significant transient without:

- exceptional piloting skill, alertness, or strength,
- forces greater than those given in §/JAR 25.143(c), and
- accelerations or attitudes in the airplane that might result in further hazard to secured or non-secured occupants.

**Warning** — A flight deck indication that alerts the flight crew to a non-normal operational or airplane system requiring immediate recognition. Immediate corrective or compensatory action by the flight crew is required.

## 5.2 Acronyms

| | |
|---|---|
| **AC** | Advisory Circular |
| **ACJ** | **Advisory Circular Joint** |
| **AFM** | Airplane Flight Manual |
| **AGL** | **Above Ground Level** |
| **AIM** | Airman's Information Manual |
| **AMJ** | **Advisory Material Joint** |
| **ARP** | Accepted and Recommended Practice |
| **ATC** | **Air Traffic Control** |
| **AWO** | All Weather Operations |
| **CG** | **Center of Gravity** |
| **CDI** | Course Deviation Indicator |
| **CWS** | **Control Wheel Steering** |
| **DA** | Decision Altitude |
| **DA(H)** | **Decision Altitude (Height)** |
| **DME** | Distance Measuring Equipment |
| **EFIS** | **Electronic Flight Instrument System** |
| **EVS** | Enhanced Vision System |
| **FAA** | **Federal Aviation Administration** |
| **FCOM** | Flight Crew Operations Manual |
| **F/D** | **Flight Director** |
| **FGS** | Flight Guidance System |
| **FLCH** | **Flight Level Change** |

| | |
|---|---|
| **FMA** | Flight Mode Annunciator |
| **FMS** | **Flight Management System** |
| **GA** | Go-around |
| **GLS** | **GNSS Landing System** |
| **GNSS** | Global Navigation Satellite System |
| **GPWS** | **Ground Proximity Warning System** |
| **HDD** | Head Down Display |
| **HUD** | **Head-Up Display** |
| **IAS** | Indicated Air Speed |
| **ICAO** | **International Civil Aviation Organization** |
| **ILS** | Instrument Landing System |
| **IMA** | **Integrated Modular Avionics** |
| **IMC** | Instrument Meteorological Conditions |
| **JAA** | **Joint Aviation Authorities** |
| **LNAV** | Lateral Navigation |
| **LOC** | **Localizer** |
| **MDA(H)** | Minimum Descent Altitude (Height) |
| **MLS** | **Microwave Landing System** |
| **MSL** | Mean Sea Level |
| **MSP** | **Mode Select Panel** |
| **MUH** | Minimum Use Height |
| **NAV** | **Navigation** |
| **ND** | Navigation Display |
| **NDB** | **Non Directional Beacon** |
| **NPA** | Notice of Proposed Amendment |
| **NPRM** | **Notice of Proposed Rulemaking** |
| **PF** | Pilot Flying |
| **PFD** | **Primary Flight Display** |
| **PNF** | Pilot Not Flying |
| **RNAV** | **Area Navigation** |
| **RNP** | Required Navigation Performance |

| | |
|---|---|
| **RTO** | **Rejected Takeoff** |
| **RVSM** | Reduced Vertical Separation Margin |
| **SAE** | **Society of Automotive Engineering** |
| **SVS** | Synthetic Vision System |
| **TCAS** | **Traffic Collision Alert System** |
| **TCS** | Touch Control System |
| **TO** | **Takeoff** |
| **TOGA** | Takeoff or Go-around |
| **VMC** | **Visual Meteorological Conditions** |
| **VNAV** | Vertical Navigation |
| **VOR** | **VHF Omni Range** |
| **WAT** | Weight Altitude Temperature |